REMARKS/ARGUMENTS

Claims 1-10, 15-23 and 27-34 are pending in the present application. New claims 31-34 are added by this amendment.

Interview Summary

Applicant thanks the Examiner for the courtesy extended to Applicant's representatives, Mark Barrish and John Shimmick, in a telephone interview conducted on December 15, 2005, for this case. Applicant reviewed the subject matter of claims 1, 3 and 31, as amended herein. Agreement was reached that these claims were allowable over the cited references, subject to final search and review.

Claim Objections

Claim 7 was objected to as ending in a semicolon, not a period. In response, Applicant has amended Claim 7 to end in a period. Applicant respectfully requests that the objection to claim 7 be removed.

Rejections under 35 USC § 102 and § 103

Claims 1-2, 15-16, and 30 were rejected under 35 USC § 102(b) as allegedly being anticipated by Swanson et al (USPN 5,459,570, hereinafter "Swanson '570"). Claims 3-4 and 17-18 were rejected under 35 USC § 103 as allegedly being unpatentable over Swanson in view of Sorin et al. (USPN 5,610,716, hereinafter "Sorin '716"). Claims 5-6 were rejected under 35 USC § 103 as allegedly being unpatentable over Swanson '570 in view of Swanson et al (USPN 5,321,501, hereinafter "Swanson '501). Claims 7-10, 19-23, and 27-29 were also rejected under § 103. These rejections are traversed in part and overcome in part as follows.

CLAIM 1

As currently amended, claim 1 is directed to a method of measuring a thickness of a tissue. Claim 1 recites directing a measurement light beam along an optical path, providing a structure along the optical path, selecting three wavelengths of light with the structure, and reflecting the three wavelengths of light from the tissue. Claim 1 also recites that the three wavelengths of light are selected to correspond with wavelengths of a Fourier series, and that an interference signal is measured for each of the three selected wavelengths of the reflected light.

The advantages of providing a structure along the optical path and selecting wavelengths of light corresponding with wavelengths of a Fourier series can be understood with reference to Figs. 11A-11D and the associated text on page 21, line 4 to page 23 line 9. Because

wavelengths of light are selected so that the wavelengths of light correspond to wavelengths of the Fourier series, the interference signals from each of these selected wavelengths can be combined to determine an intensity of the reflected light beam at several locations along the optical path. Specification page 22, lines 20 to 27. By measuring an interference signal for each of these transmitted wavelengths of light, the amplitude and phase of spatial frequency components of the Fourier Series can be determined. Specification, page 21 lines 23-27, page 22, lines 8-11. As the measured interference signals correspond to wavelengths of the Fourier series, these measured signals can be combined to determine the position of reflecting surfaces and tissues, for example, by use of an inverse Fourier transform. An etalon is an example of a structure which can be provided along the optical path and used to select three (and often more than three; e.g. forty) wavelengths of light. Fig. 11A, Specification, page 21, lines 4-22. The use of an etalon or any other structure *along the optical path* which *selects* wavelengths of light corresponding with wavelengths of a Fourier series has not been shown nor suggested in the cited art.

To anticipate a claim under § 102, a reference must describe or suggest each and every element of recited in the claim. MPEP § 2131. Applicant fails to see where Swanson '570, or any of the other references cited by the Examiner in this office action (U.S. Pat. Nos. 5,321,501, 5,610,716, 6,558,094, 6,815,228, and 6,882,431), describe or suggest a structure selecting wavelengths of light to correspond with wavelengths of a Fourier Series as recited in claim 1. With respect to the Sorin '716 reference, Applicant fails to see any suggestion or motivation in the Sorin '716 reference to provide any structure along the optical path which selects the wavelengths of light so as to correspond with the wavelengths of the Fourier series as recited in claim 1. As the cited references do not reasonably teach or suggest the advantageous methodology of claim 1, claim 1 is allowable over the cited art.

CLAIM 2

Amended claim 2 depends on claim 1. In addition to the elements of claim 1, claim 2 recites measuring an interference signal for each of the reflected wavelengths and determining an intensity of the reflected light beam at several positions along the optical path by combining the measured interference signals.

Applicant fails to see any remote suggestion in the Swanson '570 or Sorin '716 references of measuring interference signals for *each* wavelength of light and *combining* the

measured the interference signals so as to determine an *intensity* of the reflected light beam at several positions along the optical path, as recited in claim 1. Hence, claim 2 is allowable over the cited art.

CLAIM 3

Claim 3 depends on claim 1. In addition to the elements of claim 1, claim 3 recites that the Fourier series corresponds to a distance along the optical path, and <u>each of the wavelengths of light undergoes an integer number of oscillations over the distance along the optical path.</u> The use and advantages of using wavelengths of light which correspond to an integer number of oscillations over the distance along the optical path can be understood with reference to Fig. 11A and the associated text on page 21, lines 4 to 22. The Swanson '570 reference has not been shown to describe or suggest a selection along an optical path of wavelengths of light which undergo an integer number of oscillations over a distance along the optical path. Nor has the Sorin 716 reference been shown to describe or suggest the selection of wavelengths so that each wavelength of light undergoes an integer number or oscillations over the distance along the optical path. Because the combination of the Swanson '570 and Sorin '716 references has not been shown to describe or suggest all elements of claim 3, claim 3 is allowable over these references.

CLAIM 4

Claim 4 depends on claim 3 and is allowable as depending on an allowable claim and reciting an additional novel combination of elements.

CLAIMS 2, 5 AND 6

Claims 2, 5 and 6 are allowable as depending on allowable claim 1 and reciting additional novel combinations of elements.

CLAIMS 7, 15, 21, 27 AND 30

Independent claims 7, 15, 21, 27 and 30 have been amended to recite elements similar to those of claim 1, and these independent claims are allowable for reasons similar to those set forth with regard to claim 1.

CLAIMS 8, 16, 22 AND 28

Dependent claims 8, 16, 22 and 28 depend on independent claims 7, 15, 21 and 27 respectively and are allowable as depending on allowable claims and reciting additional novel combinations of elements.

CLAIM 31

New independent claim 31 recites, providing a structure which selects *ten* wavelengths of light to correspond with wavelengths of a Fourier series. As Applicant fails to see in any of the references relied upon by the Examiner the providing of a structure along the optical path which selects ten or more wavelengths of light to correspond with wavelengths of a Fourier series, claim 31 is allowable.
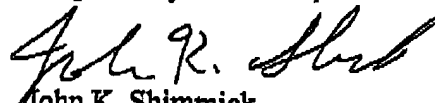
CLAIMS 32, 33 AND 34

New dependent claims 32, 33 and 34 depend on claim 31 and are allowable as depending on an allowable claim and reciting additional novel combinations of elements.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. Applicant respectfully requests allowance of all claims now pending in this application. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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Attachments
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